1646

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/525,998

DATE: 10/30/2001
TIME: 15:13:20

Input Set : A:\98385Eseq.txt
Output Set: N:\CRF3\10302001\I525998.raw

<110> APPLICANT: Hauptmann, Rudolph
Himmler, Adolph
Maurer-Fogy, Ingrid
Stratowa, Christian
<120> TITLE OF INVENTION: TNF Receptors, TNF Binding Proteins and DNAs Coding for Them
<130> FILE REFERENCE: 98,385-E
<140> CURRENT APPLICATION NUMBER: 09/525,998
<141> CURRENT FILING DATE: 2000-03-15
<150> PRIOR APPLICATION NUMBER: 08/383,676
<151> PRIOR FILING DATE: 1995-02-01
<150> PRIOR APPLICATION NUMBER: 08/153,287
<151> PRIOR FILING DATE: 1993-11-17
<150> PRIOR APPLICATION NUMBER: 07/821,750
<151> PRIOR FILING DATE: 1992-01-02
<150> PRIOR APPLICATION NUMBER: 07/511,430
<151> PRIOR FILING DATE: 1990-04-20
<160> NUMBER OF SEQ ID NOS: 87
<170> SOFTWARE: PatentIn Ver. 2.0
<210> SEQ ID NO: 1
<211> LENGTH: 1368
<212> TYPE: DNA
<213> ORGANISM: Homo sapiens
<220> FEATURE:
<221> NAME/KEY: CDS
<222> LOCATION: (1)..(1368)
<220> FEATURE:
<221> NAME/KEY: sig_peptide
<222> LOCATION: (1)..(87)
<220> FEATURE:
<221> NAME/KEY: misc_feature
<222> LOCATION: (88)..(120)
<223> OTHER INFORMATION: Portion of TNF-BP pro protein cleaved by extracellular proteases following secretion.
<220> FEATURE:
<221> NAME/KEY: misc_feature
<222> LOCATION: (606)..(633)
<223> OTHER INFORMATION: Portion of TNF-BP pro protein cleaved by extracellular proteases following secretion.
<400> SEQUENCE: 1

```
atg ggc ctc tcc acc gtg cct gac ctg ctg ctg cca ctg gtg ctc ctg   48
Met Gly Leu Ser Thr Val Pro Asp Leu Leu Leu Pro Leu Val Leu Leu
  1               5                  10                  15

gag ctg ttg gtg gga ata tac ccc tca ggg gtt att gga ctg gtc cct   96
Glu Leu Leu Val Gly Ile Tyr Pro Ser Gly Val Ile Gly Leu Val Pro
             20                  25                  30

cac cta ggg gac agg gag aag aga gat agt gtg tgt ccc caa gga aaa   144
```

ENTERED
P.5

RAW SEQUENCE LISTING DATE: 10/30/2001
PATENT APPLICATION: US/09/525,998 TIME: 15:13:20

Input Set : A:\98385Eseq.txt
Output Set: N:\CRF3\10302001\I525998.raw

```
67 His Leu Gly Asp Arg Glu Lys Arg Asp Ser Val Cys Pro Gln Gly Lys
68          35                  40                  45
70 tat atc cac cct caa aat aat tcg att tgc tgt acc aag tgc cac aaa   192
71 Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys Thr Lys Cys His Lys
72       50                  55                  60
74 gga acc tac ttg tac aat gac tgt cca ggc ccg ggg cag gat acg gac   240
75 Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly Gln Asp Thr Asp
76  65                  70                  75                  80
78 tgc agg gag tgt gag agc ggc tcc ttc acc gct tca gaa aac cac ctc   288
79 Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser Glu Asn His Leu
80                  85                  90                  95
82 aga cac tgc ctc agc tgc tcc aaa tgc cga aag gaa atg ggt cag gtg   336
83 Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu Met Gly Gln Val
84             100                 105                 110
86 gag atc tct tct tgc aca gtg gac cgg gac acc gtg tgt ggc tgc agg   384
87 Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr Val Cys Gly Cys Arg
88         115                 120                 125
90 aag aac cag tac cgg cat tat tgg agt gaa aac ctt ttc cag tgc ttc   432
91 Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu Phe Gln Cys Phe
92     130                 135                 140
94 aat tgc agc ctc tgc ctc aat ggg acc gtg cac ctc tcc tgc cag gag   480
95 Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His Leu Ser Cys Gln Glu
96 145                 150                 155                 160
98 aaa cag aac acc gtg tgc acc tgc cat gca ggt ttc ttt cta aga gaa   528
99 Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly Phe Phe Leu Arg Glu
100                 165                 170                 175
102 aac gag tgt gtc tcc tgt agt aac tgt aag aaa agc ctg gag tgc acg   576
103 Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Lys Ser Leu Glu Cys Thr
104             180                 185                 190
106 aag ttg tgc cta ccc cag att gag aat gtt aag ggc act gag gac tca   624
107 Lys Leu Cys Leu Pro Gln Ile Glu Asn Val Lys Gly Thr Glu Asp Ser
108         195                 200                 205
110 ggc acc aca gtg ctg ttg ccc ctg gtc att ttc ttt ggt ctt tgc ctt   672
111 Gly Thr Thr Val Leu Leu Pro Leu Val Ile Phe Phe Gly Leu Cys Leu
112     210                 215                 220
114 tta tcc ctc ctc ttc att ggt tta atg tat cgc tac caa cgg tgg aag   720
115 Leu Ser Leu Leu Phe Ile Gly Leu Met Tyr Arg Tyr Gln Arg Trp Lys
116 225                 230                 235                 240
118 tcc aag ctc tac tcc att gtt tgt ggg aaa tcg aca cct gaa aaa gag   768
119 Ser Lys Leu Tyr Ser Ile Val Cys Gly Lys Ser Thr Pro Glu Lys Glu
120                 245                 250                 255
122 ggg gag ctt gaa gga act act act aag ccc ctg gcc cca aac cca agc   816
123 Gly Glu Leu Glu Gly Thr Thr Thr Lys Pro Leu Ala Pro Asn Pro Ser
124             260                 265                 270
126 ttc agt ccc act cca ggc ttc acc ccc acc ctg ggc ttc agt ccc gtg   864
127 Phe Ser Pro Thr Pro Gly Phe Thr Pro Thr Leu Gly Phe Ser Pro Val
128         275                 280                 285
130 ccc agt tcc acc ttc acc tcc agc tcc acc tat acc ccc ggt gac tgt   912
131 Pro Ser Ser Thr Phe Thr Ser Ser Ser Thr Tyr Thr Pro Gly Asp Cys
```

RAW SEQUENCE LISTING DATE: 10/30/2001
PATENT APPLICATION: US/09/525,998 TIME: 15:13:20

Input Set : A:\98385Eseq.txt
Output Set: N:\CRF3\10302001\I525998.raw

```
132     290                 295                 300
134 ccc aac ttt gcg gct ccc cgc aga gag gtg gca cca ccc tat cag ggg   960
135 Pro Asn Phe Ala Ala Pro Arg Arg Glu Val Ala Pro Pro Tyr Gln Gly
136 305                 310                 315                 320
138 gct gac ccc atc ctt gcg aca gcc ctc gcc tcc gac ccc atc ccc aac   1008
139 Ala Asp Pro Ile Leu Ala Thr Ala Leu Ala Ser Asp Pro Ile Pro Asn
140                 325                 330                 335
142 ccc ctt cag aag tgg gag gac agc gcc cac aag cca cag agc cta gac   1056
143 Pro Leu Gln Lys Trp Glu Asp Ser Ala His Lys Pro Gln Ser Leu Asp
144             340                 345                 350
146 act gat gac ccc gcg acg ctg tac gcc gtg gtg gag aac gtg ccc ccg   1104
147 Thr Asp Asp Pro Ala Thr Leu Tyr Ala Val Val Glu Asn Val Pro Pro
148         355                 360                 365
150 ttg cgc tgg aag gaa ttc gtg cgg cgc cta ggg ctg agc gac cac gag   1152
151 Leu Arg Trp Lys Glu Phe Val Arg Arg Leu Gly Leu Ser Asp His Glu
152     370                 375                 380
154 atc gat cgg ctg gag ctg cag aac ggg cgc tgc ctg cgc gag gcg caa   1200
155 Ile Asp Arg Leu Glu Leu Gln Asn Gly Arg Cys Leu Arg Glu Ala Gln
156 385                 390                 395                 400
158 tac agc atg ctg gcg acc tgg agg cgg cgc acg ccg cgg cgc gag gcc   1248
159 Tyr Ser Met Leu Ala Thr Trp Arg Arg Arg Thr Pro Arg Arg Glu Ala
160                 405                 410                 415
162 acg ctg gag ctg ctg gga cgc gtg ctc cgc gac atg gac ctg ctg ggc   1296
163 Thr Leu Glu Leu Leu Gly Arg Val Leu Arg Asp Met Asp Leu Leu Gly
164             420                 425                 430
166 tgc ctg gag gac atc gag gag gcg ctt tgc ggc ccc gcc gcc ctc ccg   1344
167 Cys Leu Glu Asp Ile Glu Glu Ala Leu Cys Gly Pro Ala Ala Leu Pro
168         435                 440                 445
170 ccc gcg ccc agt ctt ctc aga tga                                 1368
171 Pro Ala Pro Ser Leu Leu Arg
172     450                 455
175 <210> SEQ ID NO: 2
176 <211> LENGTH: 455
177 <212> TYPE: PRT
178 <213> ORGANISM: Homo sapiens
180 <400> SEQUENCE: 2
181 Met Gly Leu Ser Thr Val Pro Asp Leu Leu Leu Pro Leu Val Leu Leu
182   1               5                  10                  15
184 Glu Leu Leu Val Gly Ile Tyr Pro Ser Gly Val Ile Gly Leu Val Pro
185              20                  25                  30
187 His Leu Gly Asp Arg Glu Lys Arg Asp Ser Val Cys Pro Gln Gly Lys
188          35                  40                  45
190 Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys Thr Lys Cys His Lys
191      50                  55                  60
193 Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly Gln Asp Thr Asp
194  65                  70                  75                  80
196 Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser Glu Asn His Leu
197                 85                  90                  95
199 Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu Met Gly Gln Val
```

RAW SEQUENCE LISTING DATE: 10/30/2001
PATENT APPLICATION: US/09/525,998 TIME: 15:13:20

Input Set : A:\98385Eseq.txt
Output Set: N:\CRF3\10302001\I525998.raw

```
200                 100                 105                 110
202 Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr Val Cys Gly Cys Arg
203         115                 120                 125
205 Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu Phe Gln Cys Phe
206     130                 135                 140
208 Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His Leu Ser Cys Gln Glu
209 145                 150                 155                 160
211 Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly Phe Phe Leu Arg Glu
212                 165                 170                 175
214 Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Lys Ser Leu Glu Cys Thr
215             180                 185                 190
217 Lys Leu Cys Leu Pro Gln Ile Glu Asn Val Lys Gly Thr Glu Asp Ser
218         195                 200                 205
220 Gly Thr Thr Val Leu Leu Pro Leu Val Ile Phe Phe Gly Leu Cys Leu
221     210                 215                 220
223 Leu Ser Leu Leu Phe Ile Gly Leu Met Tyr Arg Tyr Gln Arg Trp Lys
224 225                 230                 235                 240
226 Ser Lys Leu Tyr Ser Ile Val Cys Gly Lys Ser Thr Pro Glu Lys Glu
227                 245                 250                 255
229 Gly Glu Leu Glu Gly Thr Thr Thr Lys Pro Leu Ala Pro Asn Pro Ser
230             260                 265                 270
232 Phe Ser Pro Thr Pro Gly Phe Thr Pro Thr Leu Gly Phe Ser Pro Val
233         275                 280                 285
235 Pro Ser Ser Thr Phe Thr Ser Ser Ser Thr Tyr Thr Pro Gly Asp Cys
236     290                 295                 300
238 Pro Asn Phe Ala Ala Pro Arg Arg Glu Val Ala Pro Pro Tyr Gln Gly
239 305                 310                 315                 320
241 Ala Asp Pro Ile Leu Ala Thr Ala Leu Ala Ser Asp Pro Ile Pro Asn
242                 325                 330                 335
244 Pro Leu Gln Lys Trp Glu Asp Ser Ala His Lys Pro Gln Ser Leu Asp
245             340                 345                 350
247 Thr Asp Asp Pro Ala Thr Leu Tyr Ala Val Val Glu Asn Val Pro Pro
248         355                 360                 365
250 Leu Arg Trp Lys Glu Phe Val Arg Arg Leu Gly Leu Ser Asp His Glu
251     370                 375                 380
253 Ile Asp Arg Leu Glu Leu Gln Asn Gly Arg Cys Leu Arg Glu Ala Gln
254 385                 390                 395                 400
256 Tyr Ser Met Leu Ala Thr Trp Arg Arg Arg Thr Pro Arg Arg Glu Ala
257                 405                 410                 415
259 Thr Leu Glu Leu Leu Gly Arg Val Leu Arg Asp Met Asp Leu Leu Gly
260             420                 425                 430
262 Cys Leu Glu Asp Ile Glu Glu Ala Leu Cys Gly Pro Ala Ala Leu Pro
263         435                 440                 445
265 Pro Ala Pro Ser Leu Leu Arg
266     450                 455
269 <210> SEQ ID NO: 3
270 <211> LENGTH: 483
271 <212> TYPE: DNA
272 <213> ORGANISM: Homo sapiens
```

RAW SEQUENCE LISTING DATE: 10/30/2001
PATENT APPLICATION: US/09/525,998 TIME: 15:13:20

Input Set : A:\98385Eseq.txt
Output Set: N:\CRF3\10302001\I525998.raw

```
274 <220> FEATURE:
275 <221> NAME/KEY: CDS
276 <222> LOCATION: (1)..(483)
278 <400> SEQUENCE: 3
279 gat agt gtg tgt ccc caa gga aaa tat atc cac cct caa aat aat tcg   48
280 Asp Ser Val Cys Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Asn Ser
281   1               5                  10                  15
283 att tgc tgt acc aag tgc cac aaa gga acc tac ttg tac aat gac tgt   96
284 Ile Cys Cys Thr Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp Cys
285             20                  25                  30
287 cca ggc ccg ggg cag gat acg gac tgc agg gag tgt gag agc ggc tcc   144
288 Pro Gly Pro Gly Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly Ser
289         35                  40                  45
291 ttc acc gct tca gaa aac cac ctc aga cac tgc ctc agc tgc tcc aaa   192
292 Phe Thr Ala Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser Lys
293     50                  55                  60
295 tgc cga aag gaa atg ggt cag gtg gag atc tct tct tgc aca gtg gac   240
296 Cys Arg Lys Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val Asp
297 65                  70                  75                  80
299 cgg gac acc gtg tgt ggc tgc agg aag aac cag tac cgg cat tat tgg   288
300 Arg Asp Thr Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr Trp
301                 85                  90                  95
303 agt gaa aac ctt ttc cag tgc ttc aat tgc agc ctc tgc ctc aat ggg   336
304 Ser Glu Asn Leu Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn Gly
305             100                 105                 110
307 acc gtg cac ctc tcc tgc cag gag aaa cag aac acc gtg tgc acc tgc   384
308 Thr Val His Leu Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr Cys
309         115                 120                 125
311 cat gca ggt ttc ttt cta aga gaa aac gag tgt gtc tcc tgt agt aac   432
312 His Ala Gly Phe Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ser Asn
313     130                 135                 140
315 tgt aag aaa agc ctg gag tgc acg aag ttg tgc cta ccc cag att gag   480
316 Cys Lys Lys Ser Leu Glu Cys Thr Lys Leu Cys Leu Pro Gln Ile Glu
317 145                 150                 155                 160
319 aat                                                           483
320 Asn
323 <210> SEQ ID NO: 4
324 <211> LENGTH: 161
325 <212> TYPE: PRT
326 <213> ORGANISM: Homo sapiens
328 <400> SEQUENCE: 4
329 Asp Ser Val Cys Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Asn Ser
330   1               5                  10                  15
332 Ile Cys Cys Thr Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp Cys
333             20                  25                  30
335 Pro Gly Pro Gly Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly Ser
336         35                  40                  45
338 Phe Thr Ala Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser Lys
339     50                  55                  60
```

Use of n and / or Xaa has been detected in the Sequence Listing. Review the Sequence Listing to ensure a corresponding explanation is present in the <220> to <223> fields of each sequence using n or Xaa.

VERIFICATION SUMMARY DATE: 10/30/2001
PATENT APPLICATION: US/09/525,998 TIME: 15:13:21

Input Set : A:\98385Eseq.txt
Output Set: N:\CRF3\10302001\I525998.raw

L:684 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13
L:812 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13
L:844 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13
L:882 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13
L:1416 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18
L:1436 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:19
L:1482 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22
L:1548 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:26
L:1623 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31
L:1664 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33
L:1667 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33
L:1686 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:34
L:1689 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:34
L:1722 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36